

**CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM
STATEMENT OF INVESTMENT POLICY**

**FOR
DEVELOPMENTAL INVESTMENT FUND**

~~October 12, 2007~~ November 13, 2007

This Policy is effective immediately upon adoption and supersedes all previous Developmental Investment Fund policies.

I. PURPOSE

The CalPERS Total Fund Statement of Investment Policy, adopted by the CalPERS Investment Committee ("Committee"), sets forth CalPERS' overarching investment purposes and objectives with respect to all its investment programs.

This document sets forth the investment policy ("the Policy") for the CalPERS Developmental Investment Fund ("the Fund"). The purpose of this policy is to set forth the approach, requirements and parameters for developing investment approaches and strategies that are either new to CalPERS or original to the investment industry. The design of this Policy ensures that investors, managers, consultants, and other participants selected by the California Public Employees' Retirement System ("CalPERS") take prudent and careful action while managing the Fund. Additionally, use of this policy assures sufficient flexibility in managing investment risks and returns associated with the Fund.

II. STRATEGIC OBJECTIVE

The purpose of this policy is to set forth the approach, requirements and parameters for developing investment strategies that are either new to CalPERS or original to the investment industry.

CalPERS has benefited extensively from the internal management of assets. Further research and development by CalPERS shall enhance its reputation as one of the foremost pension funds in the world. The strategic objective of this policy is to codify the circumstances under which this research and development can utilize real time investing to support that development effort. All asset class units of CalPERS can benefit from the use of a pool or fund of assets set aside for such a purpose. The strategic objective of [developmental](#) investing, where *origination* of research, operations or strategy occurs, differs from [opportunistic investing](#), which applies to a standard investment strategy that may invest *temporarily* in a category of assets or outside of its [benchmark](#) universe based on current favorable market conditions. The Fund shall be managed to accomplish the following:

- A. Further the knowledge base of the CalPERS Investment Staff;
- B. Provide real time investment experience to determine the efficacy of new investment strategies; and
- C. Identify the operational and investment risks inherent in a new strategy or investment approach before it is applied generally to a large pool of assets. It is explicitly recognized that by its nature this developmental Fund may not be managed on a diversified basis and may in fact incur greater risks than what CalPERS might normally permit. These risks are acceptable to support the developmental process, and the risk control comes in the form of intense oversight and the relatively small size of the pool of assets assigned to this fund; and
- D. ~~Consider solely the interests of the System's participants and their beneficiaries in accordance with California State Law. (This language is now included in the Total Fund Statement of Investment Policy)~~

III. RESPONSIBILITIES AND DELEGATIONS

- A. ~~The **System's Investment Committee** ("the Investment Committee") is responsible for approving and amending the Policy. The Investment Committee delegates the responsibility for administering the Strategy portion of the System through the Delegations of Authority (Delegation Nos. 89-13 and 95-50).~~
- B. ~~The **Chief Investment Officer** ultimately shall oversee the investment and the allocation of the Fund across the proposed investment ideas and asset classes.~~
- AG. CalPERS' The System's Investment Staff ("the Staff") is responsible for duties include, but are not limited to, the following:
 - 1. ~~Developing and recommending the Policy to the Investment Committee;~~
 - 2. ~~Maintaining a procedure manual, subject to periodic reviews and updates, outlining Staff operational procedures used in implementing this Policy;~~
 - 3. ~~Implementing and adhering to the Policy;~~
 - 1. All aspects of portfolio management including monitoring, analyzing, and evaluating performance relative to the appropriate benchmark.

2. Reporting to the Committee annually and more if needed about the performance of the Fund.

34. Reporting all violations of the Policy immediately to the Investment Committee. The Staff's report shall include explanations and recommendations; and Monitoring the implementation of, and compliance with the Policy. Staff shall report concerns, problems, material changes, and all violations of the Policy immediately and in writing to the Committee. These reports shall include explanations of the violations and appropriate recommendations for corrective action.

45. Reporting internally to the applicable asset class senior management, the General Pension Consultant or other appropriate asset class consultant concerning the implementation of this Policy. The Staff's report shall be prepared quarterly and shall include, but not be limited to the following:

- a. Current market value of each strategy being tested within the fund and the current market value of the entire Fund;
- b. Performance of each strategy and the entire Fund Performance versus a relevant Benchmark or other appropriate measure as may be determined on a strategy by strategy basis shall be employed. There is explicit recognition that there may not be an appropriate benchmark or relevant evaluation metric that applies uniformly to the entire fund; and
- c. Performance and [risk attribution](#) analysis for each strategy Portfolio that attributes return to its causes, as appropriate to the specific asset class or strategy.

B. The General Pension Consultant ("General Pension Consultant") is responsible for monitoring and evaluating the Fund's performance and making reports concerning the performance to the Investment Committee. The General Pension Consultant shall report to the Investment Committee, as part of its Total Investment Fund Review, the performance relative to the Benchmark and Policy guidelines. The General Pension Consultant is responsible for reporting any non-compliance issues in accordance with its responsibilities under its contract with the System CalPERS.

IV. PERFORMANCE OBJECTIVE AND BENCHMARK

There is no specific performance objective or benchmark for the entire Fund. Each strategy within the Fund shall have its own specified performance metric. The expectation is that strategies developed through investment within the Fund shall ultimately enhance the investment return, the operational efficiency and diversification of the CalPERS investment program.

V. INVESTMENT APPROACH AND PARAMETERS

A. Strategy Portfolio Planning and Approval Process

The Fund is designed to provide a vehicle to support the development and inception of new investment processes that are believed to have the potential of improving diversification and reducing risk or increasing return. A decision to fund and incubate a strategy shall incorporate steps that include, but are not limited to:

1. Creation of a Concept White Paper

A concept paper, describing the proposed strategyPortfolio, can be created by anyone within the applicable investment unit with a potential investment idea and may include input from external consultants. It is anticipated that the great majority of possible ideas shall come from the Investment Officer and Portfolio Management Staff. White papers shall be reviewed by the appropriate Senior Portfolio Manager with promising ideas being routed to the Senior Investment Officer and Chief Investment Officer for their input and decision to proceed. The topics covered in the white paper shall include, but are not limited to:

- a. Description of the investment process, the approaches or techniques to be included and intuition behind it;
- b. Statement of the anticipated benefit(s) to the plan;
- c. Applicable universe of securities or assets to be included;
- d. Relevant benchmark(s) or other appropriate performance metric(s);
- e. Supporting academic or industry research if available;
- f. Risk factors;

- g. Materiality / capital capacity; and
- h. Development plan including a general description of the required resources such as information, technology, expertise, vendors, risk management and cost.

2. Development Plan Detail & Implementation

Following a decision to proceed, the development plan shall become more detailed and encompassing. This evolving document shall be reviewed by the Senior Portfolio Manager, Senior Investment Officer and Chief Investment Officer for completeness and workability. It is understood that the objective of the [incubation](#) process is to understand, test and evolve the mechanisms used to implement an investment process into the most cost effective and robust environment possible.

Carrying out the development plan shall require resources to be deployed in support of the various tasks reflected below. The magnitude of these tasks versus the available resources within a particular asset class unit, shall determine the necessity of identifying incremental resources from within the entire CalPERS Investment Office or outside the organization. Tasks contained in the detailed development plan include:

- a. Design the investment process or algorithm including the underlying inputs used to determine the assets which shall be included in the [portfolio strategy](#) and their relative weightings;
- b. Determine the tools necessary to obtain, analyze, calculate and store the needed information;
- c. Acquire historical information to support a [back-test](#) of the investment process;
- d. Determine an applicable risk analysis and management model where the strategy exposures are incorporated into the CalPERS in-house Risk Management system. An appropriate benchmark or other appropriate performance metric shall be selected as part of this step;
- e. Specify and construct a performance and risk attribution model taking into consideration the unique attributes of a particular asset class;

- f. Create a reporting format reflecting the characteristics and results of the investment process;
- g. Apprise the CalPERS Technology, Investment Operations and Fiscal areas of the project and the anticipated breadth of involvement from these functions;
- h. Engage in a real time [paper trade](#) test of the investment process; and
- i. Upon a review of all materials and by the Senior Portfolio Manager, Senior Investment Officer and Chief Investment Officer, the decision on funding the new strategy Portfolio shall be made.

3. Funding and Incubating a New Process Strategy Portfolio

The funding objective is to provide sufficient capital to support a meaningful test of the efficacy of the new investment process while minimizing the plan risk assumed by such funding. Where possible, the funding and startup of the new strategy shall be done in a phased manner that allows the program to engage the applicable investment techniques and risk acceptance in an incremental, thoughtful manner. Steps in the funding process are:

- a. Construct the funding implementation plan;
- b. Upon review of the implementation plan by the Senior Portfolio Manager, Senior Investment Officer and Chief Investment Officer, a decision shall be made regarding the funding amount, form (cash or in-kind), source and timing of asset movement;
- c. Execute test transactions to verify the performance of the information movement and communication links prior to a full engagement of the implementation plan;
- d. Execute the investment process and development plan;
- e. Generate through the Senior Portfolio Manager(s), monthly program updates to the Senior Investment Officer and Chief Investment Officer. Annually, the Investment Committee shall be presented with an agenda item outlining the entire program and the results achieved; and

- f. Strategies Portfolios—shall reside in the CalPERS Developmental Fund for a minimum of 1 year before being proposed to the Board as stand-alone components of the CalPERS investment program, ~~or terminated.~~ Unsuccessful strategies may be terminated at any time.

B. Investment Approach(s)

1. Each strategy shall have its own specified investment approach that shall be documented and shall address at a minimum:
 - a. Security or asset selection and the universe therein;
 - b. Return and Risk factors and the appropriate controls;
 - c. The incorporation by reference of other existing CalPERS investment policies where applicable, or the documented need for an exception to those policies and procedures;
 - d. Anticipated Staffing needs, both investment and operational;
 - e. The specification of a definitive back-up professional from the originator of the developmental strategy to avoid the dependence of an investment strategy on only one professional;
 - f. The appropriate separation of responsibilities among different individuals in the implementation of the strategy;
 - g. The compliance procedures for the appropriate oversight of the new strategy, based on a plan developed by the CalPERS' Enterprise Compliance Officer as part of the developmental process for each strategy;
 - h. The specification of a detailed reporting and risk monitoring package; and
 - i. The specification of an operations plan and Staff procedures manual.
2. It is recognized that the investment approaches and parameters for the development of strategies shall vary by asset class and that each asset class shall have an section-Appendix pertaining to Investment Approach that is relevant to that asset class as a part of this policy.

VII.VI. GENERAL CALCULATIONS AND COMPUTATIONS

Investors, managers, consultants, ~~and~~ other participants selected by ~~CalPERS~~~~the System~~ shall make all calculations and computations on a market value basis as recorded by ~~CalPERS~~~~the System's~~ custodian.

VIII.VII. GLOSSARY OF TERMS

~~Definitions for k~~Key words used in this policy are ~~defined~~~~located in the Equity Glossary of Terms which is included in the System's~~ in CalPERS' Master Glossary of Terms.

Approved by the Policy Subcommittee: June 10, 2005

Adopted by the Investment Committee: August 15, 2005

Revised by the Policy Subcommittee: October 12, 2007

Approved by the Investment Committee: November 13, 2007

APPENDIX A

GLOBAL EQUITY APPROACHES AND PARAMETERS

~~In accordance with the delegation provided by the Investment Committee in December 2004, and any future delegations, the following methods shall be applied.~~

To achieve the stated performance objective, ~~the~~ a Strategy anticipates developing new investment processes that shall utilize a wide variety of equity management components. Risk control techniques shall be applied to each incubated strategy portfolio to insure its operation within the approved risk budget, and is subject to all relevant Investment policies.

A. Possible Equity Management Techniques

A wide variety of investment techniques may be considered within the context of ~~the~~ a Strategy, including:

1. Stock selection;
2. Return factors;
3. Domestic and international equity;
4. Substitution;
5. Derivatives ~~(subject to existing Policy)~~;
6. Short selling;
7. Leverage; and
8. Arbitrage.

B. Restrictions

~~Limitations resulting from other CalPERS investment policies and the Strategies approved risk budget are:~~

- ~~1. The Fund is prohibited from transacting in shares of tobacco stocks;~~
- ~~2. Only countries residing on the Permissible Country List are eligible for investment; and~~
- ~~3. The maximum "active risk" for any strategy portfolio is limited to 10%, including the effect of leverage, with a range of 4-8% being more typical.~~

C. Permissible Securities

Equity of publicly traded companies and equity based securities (including derivatives). Currency shall also be a permissible security in international Portfolios.

D. Benchmarks

The individual ~~strategies~~Portfolios contained within the ~~Fund~~strategy shall be measured against an appropriate benchmark selected from the existing roster of equity benchmarks as utilized in the Global Equity program where possible. New, customized benchmarks from globally recognized vendors may be necessary where an investment process is targeting a previously unmeasured segment of the global equity universe.

E. Corporate Actions

Corporate actions (e.g., [tender offers](#), [mergers](#), [Dutch-auctions](#), and [spin-offs](#)) shall be handled on a case-by-case basis, referring issues that require in-depth analysis to the Research Unit.

F. Attribution Analysis

Each ~~strategy's~~Portfolio's cash, [liquidity](#), [active performance](#), and risk characteristics shall be monitored and reported to the Senior Portfolio Manager through the attribution reports described below:

1. [Performance Attribution](#) Report;
2. Forecasted Risk Attribution Report;
3. Cash Position Report; and
4. Liquidity Report.

Active Performance

The return of a portfolio that is in excess of its benchmark return. This is the return of the active portfolio.

Active Risk

The volatility of the returns of the active portfolio.

Arbitrage

The execution of a transaction having no or minimal risk or market exposure to profit from a mis-pricing between the instruments.

Back-Test

The calculation of historical, hypothetical results that could have been obtained from a particular investment process or strategy.

Benchmark

A set of securities with associated weights that provides a passive representation of a manager's investment process. The benchmark return is usually used to measure a manager's performance results.

Derivative

An instrument whose value is based on the performance of an underlying financial asset, index, or other investment. Classes of derivatives include futures contracts, options, currency forward contracts, swaps, and options on futures.

Developmental

Creating an investment process or category based on new research, operations or strategy.

Diversification

Investing in multiple assets to avoid or reduce the exposure to any one source of risk.

Dutch-Auction

A system in which the price of an item is gradually lowered until it meets a responsive bid and is sold.

Incubation

Funding a new developmental investment process to gain experience and insight into actual, achievable results.

Leverage

A condition where a portfolio's market obligation may exceed the market-value-adjusted capital commitment by the amount of borrowed capital (debt).

Liquidity

The ability to quickly convert a particular investment into cash at a low transaction cost.

Merger

The combination of two or more companies. Strictly speaking, only combinations in which one of the companies survives as a legal entity are called mergers.

Opportunistic

An established investment program temporarily investing outside its benchmark or asset category based on current favorable market conditions.

Paper Trade

Testing an investment strategy by engaging in a real time stream of activity simulating the actual analysis and execution required to implement the strategy.

Performance Attribution

The process of attributing portfolio returns to causes. It decomposes past performance into separate components or factors contained within a multi-factor model.

~~Permissible Country~~

~~The listing of countries with capital markets and economies that reflect the characteristics desired by CalPERS when investing beyond the U.S. border. This listing is derived from an analysis done on an annual basis by the General Pension Consultant.~~

Return Factor

A common factor to which sensitivity within the active portfolio is desired due to its returns being statistically significant or reliably forecastable over time.

Risk

A measurable probability of losing or not gaining value. Risk is differentiated from uncertainty, which is not measurable. Risk in this context is also referred to as "standard deviation", which is a statistical measure of the degree to which an individual value in a probability distribution tends to vary from the mean of the distribution.

Risk Attribution

The process of decomposing total risk and attributing it among the factors contained within a multi-factor model.

Risk Factor

A common factor to which sensitivity is not desired within the active portfolio due to its returns being too volatile or unpredictable over time.

Short Sale

The sale of a security that is not owned by the investor but rather is borrowed from a broker. The investor eventually repays the broker in kind by purchasing the security in a subsequent transaction.

Spin Offs

Companies which are derived from other companies and begin to trade publicly on their own.

Strategy

A discrete investment portfolio where all the portfolio's assets are managed with a common methodology.

Substitution

Investing in an asset that replaces the risk and return characteristics of some other asset.

Tender Offer

An offer to buy securities for cash, other securities, or both.

White Paper

A document that puts forward a specific position or solution to an issue or problem.